

Proposal

**ASSESSING TRENDS IN THE SYSTEM BUILDING PROCESS
OF SELECTED VENDORS**

Submitted to

ANDERSEN CONSULTING

April 23, 1993

Submitted by

INPUT

The Atrium at Glenpointe
400 Frank W. Burr Boulevard
Teaneck, New Jersey 07666

201-801-0050
Fax: 201-801-0441



ASSESSING TRENDS IN THE SYSTEM BUILDING PROCESS OF SELECTED VENDORS

I. INPUT'S Understanding

Andersen Consulting is considering making changes to the way in which its software solutions are created and delivered. To assist in this process Andersen wishes to understand what other vendors are doing or planning to do in this area. Andersen plans on using a third party research firm to perform this information gathering and analysis and INPUT has been invited to submit this proposal on how would perform the work.

II. Scope

Based on INPUT's current understanding of the project, the following questions need to be addressed. Note: Each of these issues has a "past", "present" and "future" component, that is, what changes are being made now (and why) and what changes are being considered and what are the factors affecting the decision.

- How is the organization and infrastructure being changing?
- How are the types and skills of the people involved changing?
- What is the driving philosophy behind changes (e.g., reusability, quality)?
- What are the processes and tools involved, including (but not limited to) methodology, design and implementation tools, other technology (e.g., architecture, object oriented development, languages)?
- What types of investment are involved (e.g., people, dollars)?
- What type of organizational structure is being used?
- What is the time horizon for change?
- What are the goals and objectives that are expected from the changes? Examples:
 - Quantifiable versus qualitative benefits
 - Technical versus business benefits

Note: This list may be modified after further consultation with Andersen.



III. Conduct of the Work

INPUT intends to rely primarily with interviews with targeted companies. There will be initial telephone interviews that will be used to collect information as well as to identify people with whom it would be profitable to have a face-to-face interview.

Andersen has indicated that the following firms should be targeted:

- IBM (components)
- DEC
- EDS
- Cap Gemini
- Microsoft
- Oracle

Can make Tech

INPUT agrees that this list is a useful point of departure, although INPUT suggests, for example, that HP be considered in place of Cap Gemini. In addition, some of the work of smaller firms, for example, DACOM, that might also be assessed.

Another aspect that INPUT believes should be considered is the type of activity being supported. Examples include:

- Changes in the system building process in support of a firm's own software products.
- System building processes or tools that will be offered for resale as a product or service.
- Processes or tools used to support delivery of solutions to customers (SI)

These activities overlap to a degree, but should probably be considered separately also. The attached exhibit shows INPUT's view as to where the focus of potential system building changes are within the initially-targeted companies.

For purposes of time and cost estimation, INPUT is assuming that 10-12 companies or company units will be targeted for investigation and analysis.

INPUT recommends that the project begin with a worksession in Chicago between INPUT and Andersen personnel to develop a better understanding of INPUT's role and how the information will be used. The scope, related interview guide and vendor targets will also be discussed.

It is INPUT's understanding that Andersen wishes to have this information primarily to help set its own direction. Andersen is more interested in a thorough understanding of industry practices, experience and the rationale for direction rather than competitive intelligence.



INPUT believes that much more information will be gained if individuals and companies interviewed can be assured that neither individual responses or company practices will be identified with a particular respondent or company (unless of course the respondent has no objection or information has already been made public). INPUT recommends this course of action because in this type of subject there is a wide band of non-proprietary, but non-yet-public, information. Individual respondents are often unsure where this line lies and take a conservative position unless assured that their name will not be quoted.

Interview targets will be knowledgeable people within the software development, software R & D organizations or software planning. All things being equal, targets will be the head of such organizations; however, somewhat less senior people are often very well informed and easier to get to. Given the time frame of this study, this could be an important consideration.

For the most part INPUT does not believe that groups developing systems for internal use ("CIOs") will be primary targets. Oracle is a partial exception.

Interviews will be conducted by senior INPUT staff.

INPUT will supplement the direct research with information gained from third parties and other contacts.

Because of the nature of the project and the relatively short period of time for its completion, INPUT is not planning formal status reviews. INPUT will have weekly telephone status reports with an appropriate Andersen project manager.

INPUT will prepare a foil-type presentation following an outline agreed to with Andersen and make the presentation to Andersen staff in Chicago. This will be followed by a formal written report.



IV. Schedule

INPUT understands that Andersen needs the results of this study for inclusion in a larger piece of work that is due at the end of June. INPUT is assuming that work will be able to start in the first week in May and will be finished in mid-June. The major variable in the schedule is the physical availability of target company staff for interviewing.

<u>Week</u>	<u>Activity</u>
1	Worksession with Andersen
2-4	Telephone interviews
3-5	On-site interviews
6	Analysis and presentation preparation
7	Presentation
8	Report prepared

V. Qualifications

The project will be directed by Thomas O'Flaherty, Vice President. He is very well qualified to lead this project for the following reasons:

- He has directed a number of projects in the last several years in the area of software engineering and applications development technology. See attached summary list.
- Mr. O'Flaherty is recognized as being knowledgeable in this field and besides being a conference speaker is currently the Consulting Editor to the journal, Software Engineering.
- Mr. O'Flaherty has recently led studies at Andersen on software products, software package modification and application management.

Also on the project team will be Dennis Wayson, Vice President, and John McGann, Principle Consultant, both of who have had extensive experience in application development issues. On-site interviews will be conducted by Mr. O'Flaherty and Mr. Wayson.

Biographies are attached.



VI. Fee

INPUT's professional fee for this study will be \$60,000. One half of this amount (\$30,000) is due and payable at the time of project authorization. The remainder plus expenses is due at the submission of the final report. Out-of-pocket expenses (primarily travel, production and telephone charges) are not expected to exceed \$7,000.

AUTHORIZATION

To authorize the project as specified, please sign and return one copy of this proposal along with the initial fee. Upon acceptance by INPUT, a countersigned copy of the proposal will be returned to Andersen.

AUTHORIZED BY:

Andersen Consulting

ACCEPTED BY:

INPUT

Name _____

Name _____

Title _____

Title _____

Date _____

Date _____



Exhibit:

PRIMARY FOCUS OF CHANGES IN THE SYSTEM BUILDING PROCESS: SELECTED
VENDORS

<u>Vendor</u>	<u>Focus of Changes</u>		
	<u>Changes in Developing Own Software Products</u>	<u>Processes and/or Tools for Resale</u>	<u>Processes and/or Tools to Support SI Delivery</u>
IBM (Components)	x	x	x
DEC		x	x
EDS			x
CGS			x
Microsoft	x		x
Oracle	x	x	x



J U L Y 1 9 9 3

**Assessing Trends in the System Building Process
of Selected Vendors**

Prepared for:

Andersen Consulting

By:

INPUT

INPUT



Purpose of Study

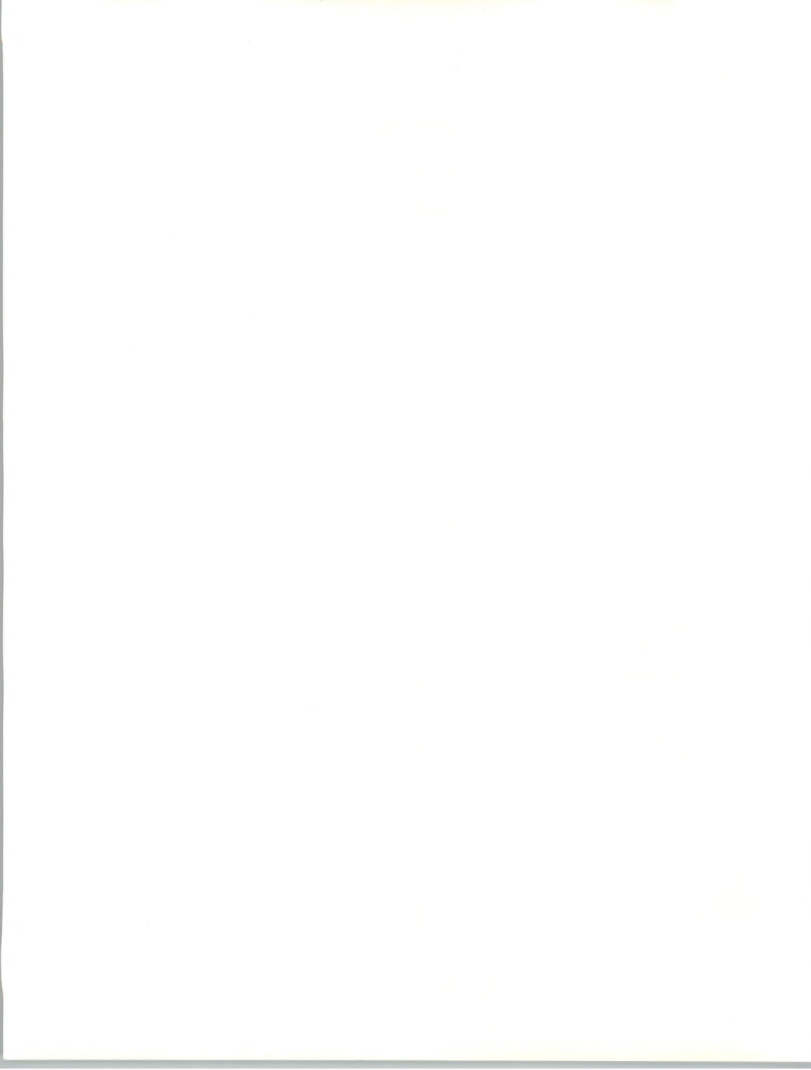
Understand Software Building Practices of Selected Vendors

- **Changes/innovations**
- **Benefits of changes**
- **Importance of tools versus process**
- **Challenges**
- **Other organizations to watch
(respondents' views)**
- **INPUT assessment of potential leaders**



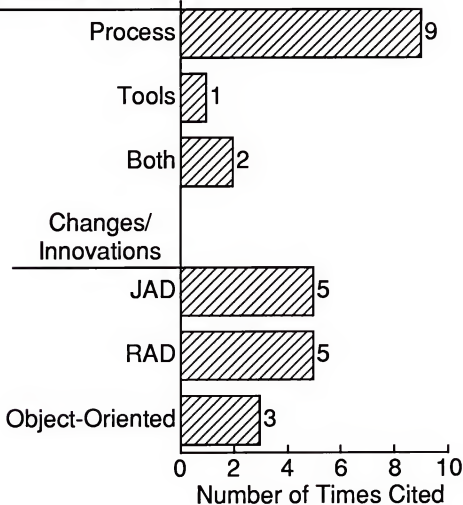
Study Methodology

- **INPUT/Andersen selected target companies**
 - **Borland**
 - **CAP Gemini**
 - **Cambridge Technology**
 - **D. Appleton & Co.**
 - **DEC**
 - **EDS**
 - **HP**
 - **IBM**
 - **Microsoft**
 - **Oracle**
 - **Texas Instruments**
 - **Xerox PARC**
- **Developed interview guide**
- **Multiple interviews; senior staff; two hours +**



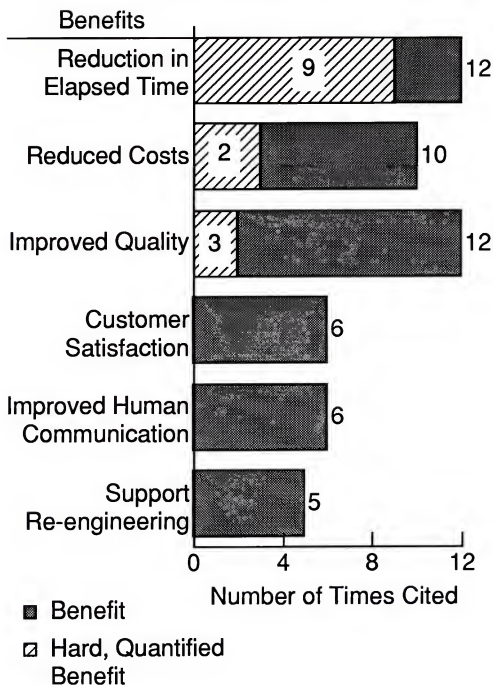
Development Changes/Approaches

Importance of
Process vs. Tools

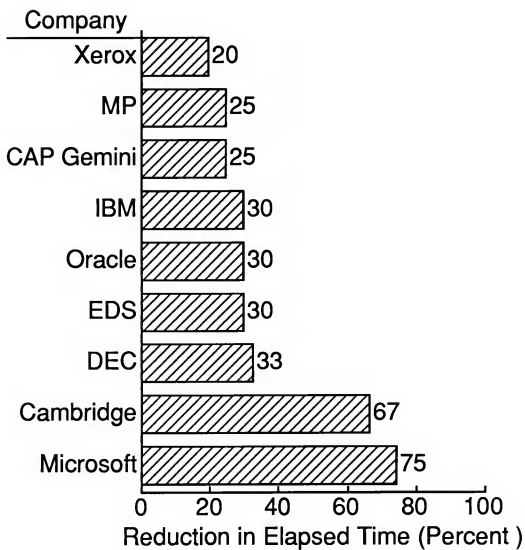


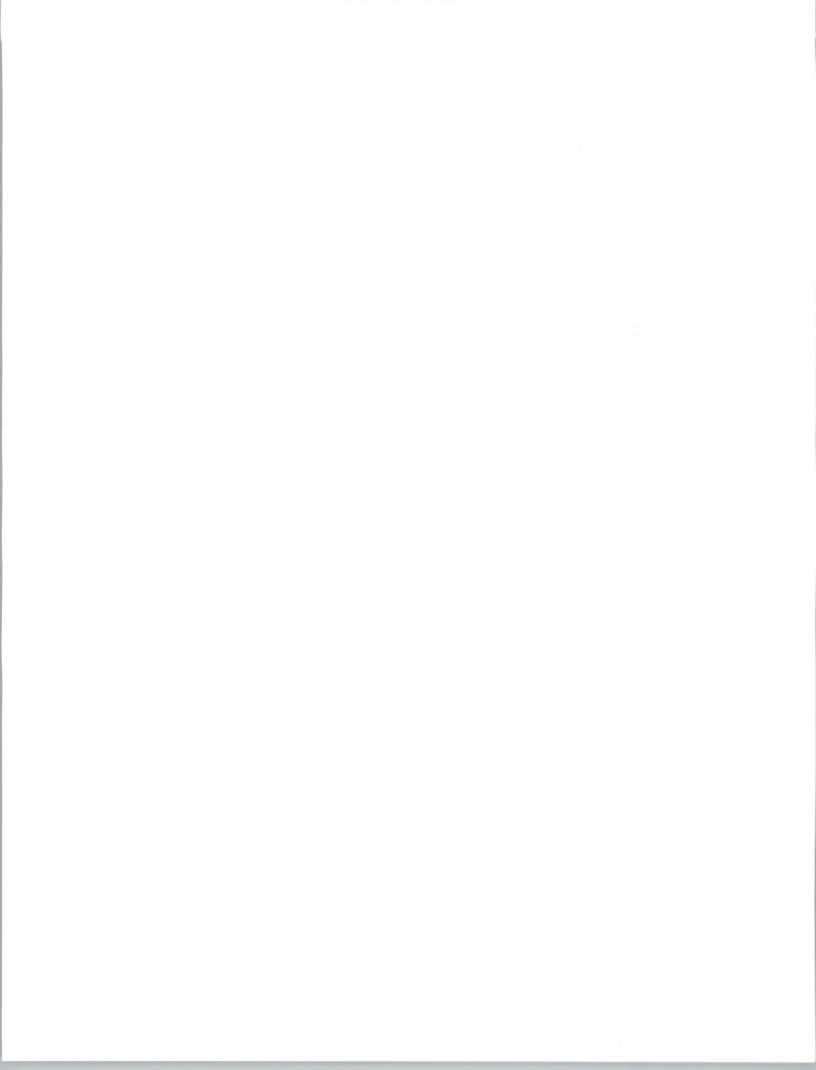
- Process is important
- CASE has not lived up to promise
- Lack of C/S model/tools

Benefits Cited



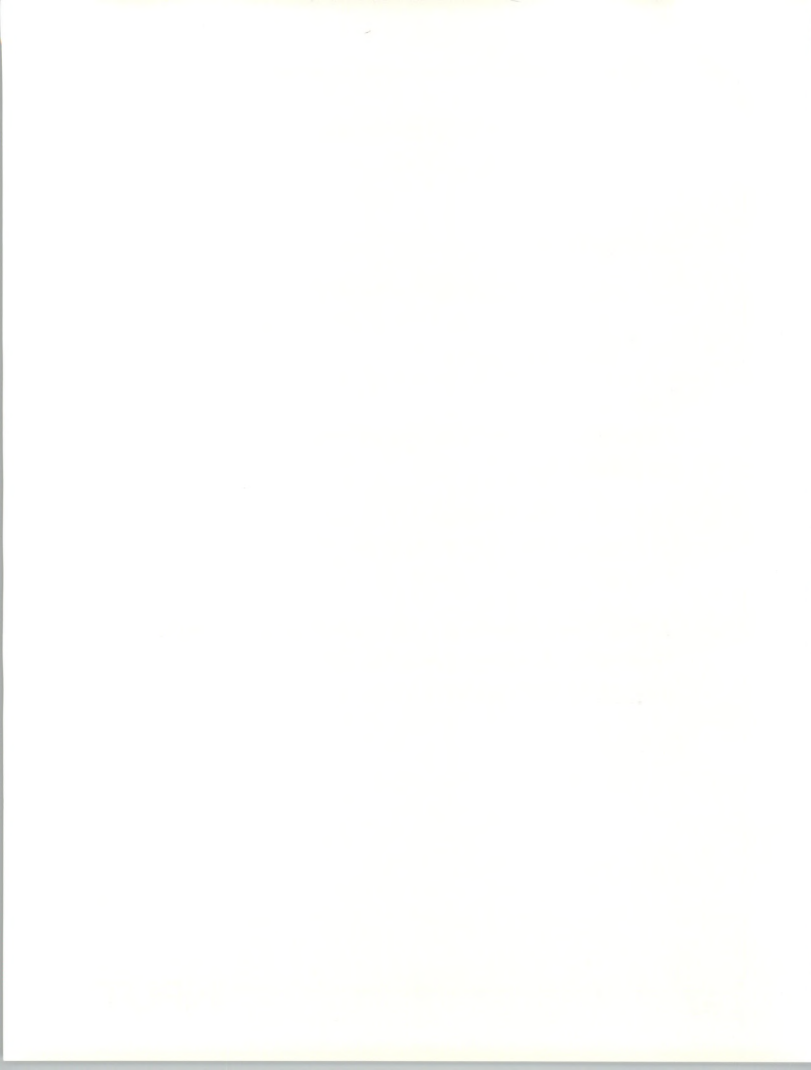
Reduction in Elapsed Time To Deliver





Challenges

- **Bottlenecks**
 - Skills, especially on "process" side
 - Lack of C/S model for allocating processing/data
- **Conventional training good for technical skills. Deficiencies:**
 - "Process" skills
 - Generalized C/S design
- **A few firms are trying to formalize and speed up "learning through experience" (for JAD, C/S design)**

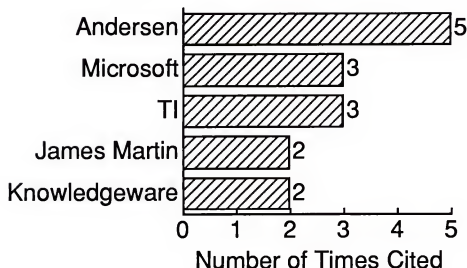


Challenges (Cont.)

- **Danger of overdependence on "99th Percentile" (superprogrammers or superanalysts)**
- **Overall absence of dedicated organizations for developing and disseminating software building improvements.**
 - **IBM and DEC are exceptions -- they have specialized units/laboratories**
 - **However, knowledge is not leveraged.**
- **INPUT's opinion on "breakthrough" criteria:**
 - **A replicable training process that makes "90th Percentile" people almost as effective as "99th Percentile" people**



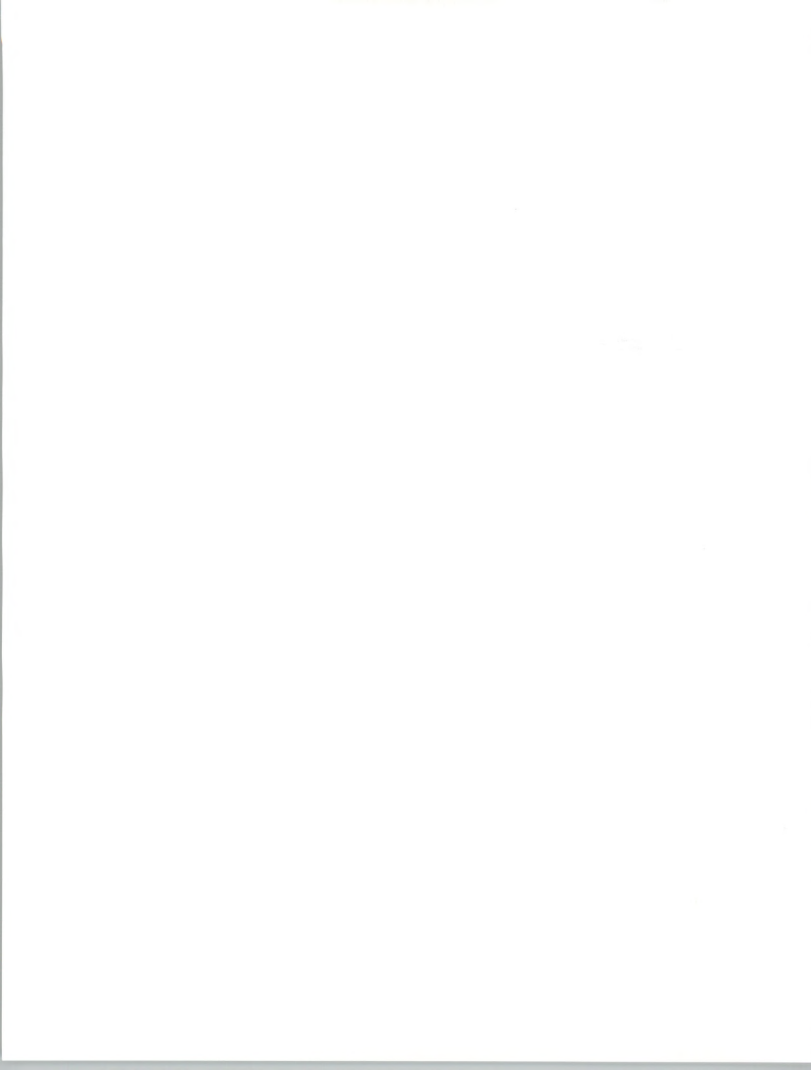
Organizations To Watch for Development Improvements (Cited in Interviews)



Cited Once

Borland	Motorola
Cambridge	Next
DEC	Raytheon
Hughes	USC/Software
	Engineering Institute
IBM	"Other Big 6"
Lotus	

- Relatively little concrete information
 - Lack of forums
 - Internally focused



INPUT Assessment of Leadership Organizations

EDS

- **Bringing discipline and structure to process**
 - **Functions points**
 - **Overall metrics**
- **Object-oriented, data modeling**

Microsoft

- **Focus on relative few products**
- **Object-oriented/reuse strategy**
- **Developing C/S methodology**
- **Some metrics**



INPUT Assessment of Leadership Organizations (Cont.)

Borland

- Focus on relatively few products
- Object-oriented/reuse
- High degree of management control
- Strength and weakness: "superprogrammers"

Xerox PARC/XSOFT

- Structure/discipline in process
- High degree of management control
- Metrics oriented: technical, customer satisfaction
- Potentially innovative C/S development approach



Accg:
ONLY

CUSTOMER/INVOICE TO

Inv. Comp.	By:	Date:	Client #	Order #	Inv. #	Multi-Invoicing of
ORIGINATOR (Signature) <u>[Signature]</u> DATE <u>7/23/93</u>						APPROVALS
Company <u>Anderson Consulting</u>			CA Tax Rate			VP Sales/Res.
Name Mr./Ms. <u>Teresa Poggenpohl</u>			CT Tax 8%			Date
Position			Salutation			Controller
Address <u>69 W Washington</u>			State			Date
City <u>Chicago</u>			Zip			
Province			Country			
Phone <u>312-507</u>			Fax <u>312 507</u>			
			Tlx			

Special instructions for invoicing, progress billing, or delayed payments, etc.

Will send expenses after 7/29 & can bill then

CLIENT AUTH.

ORDER

Contract Year Beg. _____ End _____	Invoice Type <input type="checkbox"/> Fulfillment Only <input type="checkbox"/> W/Order (OR) <input type="checkbox"/> Monthly (MO) <input type="checkbox"/> Quarterly (QT) <input type="checkbox"/> Pending	Employee # Sold by: <u>TA</u> <u>100%</u> _____% _____% _____%	Employee # Commission to: _____%
<input type="checkbox"/> New Order (N1) <input type="checkbox"/> Prior Yr (N3) <input type="checkbox"/> Renewal (N2) <input type="checkbox"/> Cancel			

PO# _____
Attach all authorizing documents to white (contract) copy.INPUT Contract ☐ Letter ☒ Verbal ☐

SHIP TO

Company _____	Province _____
Name Mr./Ms. _____	Salutation _____
Position <u>Sane</u>	State _____
Address _____	Zip _____
City _____	Country _____
	Phone _____

ITEM TYPE

<ul style="list-style-type: none"> • Subscription (SB) • Custom (YC/ZC/KC)VC • Multiclient (MC) • Reports (RP) 	<ul style="list-style-type: none"> • Copies (CP) • Consult/Present (PR) • Newsletter (NL) • Reimbursed Costs (EX) 	<ul style="list-style-type: none"> • Merger/Acq. (ME) • Exec Overview (EO) • Conf/Seminar (CN)
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DETAIL

Indicate US, UK, FR, VA	Prod. ID/Year	Item Type Code	Item Description or Title	Quantity	Price	Shipped By	Date
US	YAS	YC	Add-on presentation		3,500		
			+ expenses				

Fulfillment to be completed in: ☐ Corporate ☐ London ☐ Virginia ☐ France ☐ Other _____

• White - Contract • Green - Fulfillment • Yellow - Invoice • Pink - Originator • Goldenrod - Sales Manager

M&S180 12/92

INPUT



ORDER/INVOICE/FULFILLMENT

Acctg. ONLY

Inv. Comp.	By:	Date:	Client #	Order #	Inv. #	Multi-Invoicing of
ORIGINATOR (Signature) <u>[Signature]</u> DATE <u>5/10/93</u>						APPROVALS
Company <u>Anderson Consulty</u> CA Tax Rate						VP Sales/Res.
Name Mr./Ms. <u>Teresa Poggenpohl</u> CT Tax 8%						Date
Position <u>Poggenpohl</u> Salutation						Controller
Address <u>69 W. Washington St</u> State <u>IL</u>						Date
City <u>Chicago IL</u> Zip <u>60602</u>						
Province Phone <u>312 507 2477</u> Country Fax <u>312-507-8111</u>						
Tlx						

Special instructions for invoicing, progress billing, or delayed payments, etc.

\$ up front

CLIENT AUTH.

Contract Year Beg. _____ End _____	Invoice Type <input type="checkbox"/> Fulfillment Only <input type="checkbox"/> W/Order (OR) <input type="checkbox"/> Monthly (MO) <input type="checkbox"/> Quarterly (QT) <input type="checkbox"/> Pending	Employee # Sold by: <u>TOP</u> <u>100%</u> _____ _____ _____	Employee # Commission to: _____ % _____ _____
<input type="checkbox"/> New Order (N1) <input type="checkbox"/> Prior Yr (N3) <input type="checkbox"/> Renewal (N2) <input type="checkbox"/> Cancel			

PO# _____ INPUT Contract ☐ Letter ☐ Verbal ☒
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SHIP TO

Company _____	Province _____
Name Mr./Ms. _____	Salutation _____
Position <u>Same</u>	State _____
Address _____	Zip _____
City _____	Country _____
	Phone _____

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• Custom (YC/ZC/KC)VC	• Consult/Present (PR)	• Exec Overview (EO)
• Multiclient (MC)	• Newsletter (NL)	• Conf/Seminar (CN)
• Reports (RP)	• Reimbursed Costs (EX)	

DETAIL

Indicate US, UK, FR, VA	Prod. ID/Year	Item Type Code	Item Description or Title	Quantity	Price	Shipped By	Date
US	Y45	YC	Assessing Trends in Office System Building Process		860000		
			+ 7K exp				

Fulfillment to be completed in: ☐ Corporate ☐ London ☐ Virginia ☐ France ☐ Other

• White - Contract • Green - Fulfillment • Yellow - Invoice • Pink - Originator • Goldenrod - Sales Manager

M&S180 11/90

INPUT



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AUTHORIZED BY:

Andersen Consulting

ACCEPTED BY:

INPUT

Wesley R. Roggenpohl
Name

Name

Director of Mktg. Research
Title

Title

5/11/93
Date

Date



INVOICE

INPUT®

INPUT FEDERAL ID# 94-2385674

1280 Villa Street Mountain View, CA 94041 (415) 961-3300
Telex 171407 Fax (415) 961-3966

ATTENTION: Accounts Payable

TO

DATE 05/10/1993

ANDERSEN CONSULTING
Teresa Poggenpohl
69 W. Washington Street
Chicago, IL 60602

INVOICE # 112335

PROJ. CODE YCU..

SALES
ORDER # 112582

(312) 507-2477

PURCHASE
ORDER #

ORDER DESCRIPTION	AMOUNT
1 YA5-YC Custom - Andersen/Poggenpohl	60,000.00
Total Order Amount	\$ 60,000.00
PROFESSIONAL FEE FOR CUSTOM CONSULTING "ASSESSING TRENDS IN THE SYSTEM BUILDING PROCESS OF SELECTED VENDORS" FIRST HALF BILLING	\$30,000.00
AMOUNT INVOICED	\$ 30,000.00

Thank You!



INPUT

Atrium at Glenpointe, 400 Frank W. Burr Blvd., Teaneck, NJ 07666 Tel. (201) 801-0050
Fax (201) 801-0441

July 22, 1993

Ms. Teresa Poggenpohl
Andersen Consulting

Via fax: 312-507-8111

Dear Teresa:

This will confirm our conversation yesterday where INPUT will prepare an additional summary and present it at the July 29 meeting in Chicago. I will work directly with MaryEllen McKee on this and keep you informed.

The fee will be \$3,500 plus travel expenses.

I look forward to working on this project.

Sincerely,

Thomas O'Flaherty
Vice President

a:CUST8:YA5-ADD



Week Andersen YAS

[illegible]

Proj. Code: _____ Proj. Name: _____ Prepared by: _____ Page 1 of _____
Proj. Manager: _____ Date: 4/30



PROJECT WORK STATEMENT

System Building Process

TITLE Assessing Trends in the
CLIENT Andersen

DISTRIBUTION

CONTRACT: ATTACHED ☒ TO FOLLOW _____ LETTER _____ VERBAL _____
PROJECT LEADER TOR PROJECT CODE YAS
DATE STARTED May 5 PLANNED COMPLETION DATE July 15 98
LEVEL OF EFFORT (Professional Man Days) 36

CONTRACT FILE

LIBRARY FILE

NEW JERSEY

INPUT LTD.

TOR
OriginatorTOTAL CONTRACT VALUE: \$ or £ 60,000REVENUE DISTRIBUTION (% or \$) INPUT US 1 INPUT LTD _____

REIMBURSABLE EXPENSES: NO _____

YES ☒EXP. BUDGET 7TO COVER: TRAV: ☒
TELE: ☒
RPT. PREP.: ☒
OTHER: _____

SHEILA (Y&Z on

BINDER COPY

Date Typed _____

BILLING SCHEDULE DESCRIPTION StandardPROJECT DESCRIPTION To assess system building
practices & processes (Current & planned)
in 10-12 vendorsINDICATE TYPE OF WORK: REPORT ☒ PRESENTATION ☒THANK YOU PACKAGE: YES ☒ NO _____

ACCOUNTING USE ONLY: ENTERED ON CURRENT PROJECT LIST _____

